The Monitor

The Newsletter of the ETV Advanced Monitoring Systems (AMS) Pilot

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Participating Vendors/Contacts

- **Andersen Instruments** (2, Continuous Ambient Mass Monitor [CAMM], Aethalometer).

  Contact: Jim Morton, 500 Technology Court, Smyrna, GA 30082, Phone 800-241-6898, Fax 770-319-0336, e-mail sales@AndersonInstruments.com.

- **Dekati Ltd** (Electrical Low Pressure Impactor [ELPI]).

  Contact: Ari Ukkonen, Osuusmyllynkatu 13, FIN-33700 Tampere, Finland, Phone +358-3-3578100, Fax +358-3-3578140.

- **EcoChem Analytics, Inc**. (Photoelectric Aerosol Sensor [PAS2000 PAH Monitor]).

  Contact: Ed Chikhliwala, 22605 Valerio St., West Hills, CA 91307, Phone 818-347-4369, Fax 818-347-5639; e-mail info@ecochem-analytics.com.

- **Met One Instruments** (Beta-Attenuation Mass Monitor [BAM 1020]).

  Contact: Tom Merrifield, 1600 Washington Blvd., Grants Pass, OR 97526, Phone 770-947-3523, Fax 770-947-3524, e-mail metone@metone.com.

- **Opsis AB** (SM200 Beta Attenuation Monitor).

  Contact Carl Kamme, Box 244, SE-244 02, Furulund, Sweden, Phone (Int.) +46-46-722585, Fax (Int.) 46-46-722501, e-mail info@opsis.se.

- **Rupprecht & Patashnick Co.**, Albany, NY (5, Series 1400 Tapered Element Oscillating Microbalance [TEOM], Series 1400 TEOM with Sample Equilibration System [SES]), Series 5400 Carbon Monitor, Series 8400S Sulfate Monitor, and Series 8400N Nitrate Monitor).

  Contact: Mike Meyer or Dabrina Dutcher, 25 Corporate Circle, Albany, NY 12203, Phone 518-452-0065, Fax 518-452-0067, e-mail info@rpco.com.

- **TSI Instruments**, St. Paul, MN (APS Aerodynamic Particle Sizer).

  Contact: Larry Paul, 500 Cardigan Rd., Shoreview, MN 55126, Phone 651-490-2822, Fax 651-490-3860, e-mail particle@tsi.com

Verification Test of Ambient Fine Particulate Monitors Next in Line

Next in line for verification testing by the ETV's Advanced Monitoring Systems pilot (AMS) are 12 ambient fine particulate monitors submitted by seven vendor companies (see box).

Fine particulate matter (PM), typically referred to as $PM_{2.5}$, has been linked to a number of adverse health effects and is of concern to both environmental and health care professionals. In 1997, the U.S. EPA revised the National Ambient Air Quality Standard, which calls for a network of sites to monitor $PM_{2.5}$.

Typically, PM monitoring involves manual sampling methods that are labor intensive and require integrating the data over 24-hour periods. Continuous monitors can provide real-time—or near real-time—data with relatively little operator effort. Thus continuous PM monitors are of interest to the air monitoring community and have a variety of PM monitoring applications. The wide-spread use of continuous PM monitors has been limited by several factors, including the lack of independent performance verification data.

The purpose of the upcoming test is to evaluate the performance of commercially available continuous or semi-continuous monitors of PM under realistic operating conditions. Each instrument's performance will be evaluated by comparison with currently accepted time-integrated methods.

Battelle, the U.S. EPA's partner for the AMS pilot, will be conducting the test in two phases and at two established sites with ongoing PM monitoring programs.

The test sites are in geographically distinct regions and were selected to provide different PM concentration levels and chemical composition.

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Verification Test (from page 1)

The test at each site will last approximately one month. The initial phase will be conducted at the U.S. Department of Energy's National Energy Technology Laboratory (NETL) at South Park, PA, south of Pittsburgh. This phase is scheduled from late July to late August, when there will likely be high concentrations of fine PM and the composition will be dominated by secondary aerosol components (sulfate, nitrate, and ammonium), with a significant amount of elemental and organic carbon.

The second phase is scheduled for mid-December 2000 to mid-January 2001 at the California Air Resources Board's (CARB) site in Fresno, CA. During the winter, the CARB site in Fresno typically experiences high concentrations of ambient ammonium, nitrate, geological (i.e., soil-related), and carbonaceous material, which contribute significantly to $PM_{2.5}$ concentrations. Members of the AMS pilot's air stakeholder committee and officials from EPA are expected to observe a portion of the test.

Results from both phases of the test will be contained in the verification reports for each technology tested. The verification reports and statements are expected to be available by next summer. The test results will provide prospective users and buyers of PM monitors with quality-assured performance data for the monitors tested so they can make better informed application and purchasing decisions.

Upcoming Events

September 19-20, 2000
U.S. EPA National Environmental Monitoring conference, Boston, focusing on environmental monitoring and related technologies, programs, and applications. Call 888-EPA-7341 or (outside of New England) 617-918-1111.

October 12-13, 2000
Combined AMS pilot air and water stakeholder committee meetings.

Note to Vendors:

For additional information about upcoming verification tests, please contact the following Battelle staff:

Mercury CEMs, NO/NO_2 analyzers, and for general information about all AMS pilot verification tests–Tom Kelly, 614-424-3495 or kellyt@battelle.org.

Fine particle monitors, on-board vehicle emission monitors –Ken Cowen, 614-424-5547 or cowenk@battelle.org.

Optical open-path monitors–Jeff Myers, 614-424-7705 or myersjd@battelle.org.

Portable water analyzers, multi-parameter water probes– Adam Abbgy, 614-424-5484 or abbgya@battelle.org.

Penelope Hansen (third from right), EPA's ETV program coordinator, observed the Boreal Laser optical open-path monitor (inset) verification test conducted at Battelle's research site near Columbus, Ohio. Also pictured are (from left): Karen Riggs, Tom Kelly, and Jeff Myers of Battelle; Cliff Glowacki, member of the AMS pilot's air stakeholder committee; and Jim Bauer of Boreal Laser.

Visit the AMS pilot on the Web at http://www.epa.gov/etv/07/07_main.htm.